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(54) Title: PRERECORDED MEDIA AUTHENTICATION AND DOWNLOAD SYSTEM

(57) Abstract: A method for authenticating that a specified prerecorded media, such as a CD ROM, is in the possession of a user and then permitting said user having possession of the specified prerecorded media to download audio, video, or other information over a network of interconnected electronic devices is provided. The method comprises the steps of prompting a user to place the specified prerecorded media, e.g., a selected CD, into a drive connected to the electronic device, e.g., a CD ROM (or DVD ROM) drive of a computer, accessing information, for instance information that is descriptive of the data on the prerecorded media, in a CD ROM in the CD ROM drive, and determining whether the accessed information fits a predetermined criteria. If the prerecorded media has the predetermined information, then the user of the electronic device is allowed to download additional data via the network.



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PRERECORDED MEDIA AUTHENTICATION AND DOWNLOAD SYSTEM

Field of the Invention

The present invention relates to the field of prerecorded media such as prerecorded cassette tapes, prerecorded CD ROMS, prerecorded VHS tapes, prerecorded hard drives, prerecorded DVDs, and any other type of prerecorded media including removable drive media (such as Zip®, Jazz®, and CompactFlash media) and in particular, to prerecorded cassette tapes, prerecorded CD ROMS, prerecorded VHS tapes, and prerecorded DVDs for playing music or video as a means for granting access to restricted content related to a specific prerecorded media on a global information network of interconnected electronic devices.

Background of the Invention

In the music industry, CD ROMs (hereinafter CD's) often contain "bonus tracks" which are added to later releases of a given CD. In other words, a later released CD, which has the same title and packaging as a CD released months or weeks earlier, may nevertheless have additional tracks (i.e. songs) which are not on the earlier release. If a purchaser of the earlier released CD wishes to obtain the bonus track, he or she is forced to purchase a new CD.

A similar situation exists with other prerecorded media. For instance, a later release of a prerecorded video tape might have clips related to the making of the video. Again, if the purchaser of the earlier released prerecorded media wishes to obtain the bonus material, he or she is forced to purchase a new copy of the prerecorded media.

Summary of the Invention

In accordance with the present invention, a method is provided for allowing a person in possession of a selected CD (for example, the CD entitled "Human Clay" by the band Creed) to have access to "bonus" tracks or other audio or video data to his or her computer. In accordance with this method, a user places the CD into the CD ROM (or DVD ROM) drive of a computer, and then downloads a software application from a global information network such as the Internet onto the computer. When the software application is executed, it accesses the CD via the CD ROM drive and confirms that the CD in the CD ROM drive is

the selected CD. If the CD is the selected CD, the bonus track or other audio or video data is transmitted to the computer via the global information network. While the transmitted data is preferably audio or video data, in alternative embodiments of the present invention, other types of electronic data (such as Macromedia Flash™ files, software, or password protected web-pages) may be transmitted instead of, or in addition to, the audio or video data. The transmitted data can be sent as a download where the “bonus” data may be stored on the computer or can be transmitted for streaming use only such that the data may be accessed but not stored on the computer. The computer can be of any known type, including but not limited to personal computers, laptop computers, hand-held computers, and other electronic devices such as computerized appliances and the like. Preferably, the system confirms that the CD in the CD ROM drive is the selected CD by scanning the CD in the CD ROM drive, and generating a unique identifier from the contents of the CD. In a preferred embodiment, the unique identifier is a function of the structural arrangement of the data (e.g. songs) on the CD. Most preferably, the unique identifier is a function of two or more of the number of tracks on the CD, the length of each track, the order of each track, and the total track length of the CD. Alternatively, the unique identifier may be a function of portions of the specific data in the tracks.

In accordance with another embodiment of the present invention, the CD ROM is a digital video disk (DVD), and system allows a person in possession of a selected DVD (for example, the DVD of a particular film) to download “bonus” audio or video data to his or her computer in the manner described above.

Detailed Description of the Preferred Embodiment

The preferred embodiments of the present invention will now be described in detail. Although the system and method of the present invention will be described in connection with these preferred embodiments, it is not intended to be limited to the specific form set forth herein, but on the contrary, it is intended to cover such alternatives, modifications, and equivalents, as can be reasonably included within the spirit and scope of the invention as defined by the appended claims.

The following description illustrates a preferred embodiment of the present invention which is implemented in the Visual Basic programming language utilizing the multi-media capabilities of the mciSendString Application Programming Interface (API), which allows a programmer to send instructions to, and query information from, a CD ROM (or DVD ROM) drive. In accordance with the present invention, an authentication software application (hereinafter "ASA" program) is provided which can be downloaded by a user via a global information network such as the Internet. An exemplary ASA program is set forth below in Appendix 1. While the description set forth below refers to CD ROM drives for ease of discussion, it should be understood that this description applies to DVD ROM drives and the "drives" useful in reading any other media in a prerecorded form.

After downloading the ASA program, the user runs the program by double-clicking the executable ASA program file. If the CD-ROM drive is empty, the application will instruct the user to insert a CD. This can be implemented for example, as follows:

```
mciSendString "status cd media present", s, Len(s), 0
```

```
If (CBool(s)) Then
```

```
.....
```

```
Else
```

```
    eject.Enabled = False
```

```
    timeWindow.Text = "Insert CD"
```

If a data CD is in the CD-ROM drive, then an error message will be displayed indicating that the user should place an audio CD into the drive. In addition, the Eject button is enabled, which allows the user to open the CD-ROM drive tray and switch CDs. This can be implemented, as follows, by identifying any CD which has only one track as a data CD:

```
eject.Enabled = True
```

```
If (iNumberOfTracks = 1) Then
```

```
    timeWindow.Text = "Please insert audio CD"
```

```
Exit Sub
```

```
EndIf
```

If an audio CD is in the drive or an audio CD is placed in the drive, then the user will be instructed to establish a connection to the Internet and then press the "Verify CD" button to begin the verification process.

Prior to displaying the message, the ASA program scans the CD-ROM drive and generates a unique identifier for the audio CD. The unique identifier is created by taking two or more of the known attributes of the audio CD, for example, the number of tracks, the length of each track, the order of each track, and the total track length of CD, and combining these attributes in an algorithm to produce the unique identifier. This can be implemented, for example, as follows:

```
varTmp = ""  
  
For q = 1 To 5  
    Select Case q  
        Case 1  
            mciSendString "status cd length wait", s, Len(s), 0  
            iTmp = s  
        Case 2  
            iTmp = trackLength(1)  
        Case 3  
            iTmp = trackLength(iNumberOfTracks)  
        Case 4  
            halfTrack = CInt(iNumberOfTracks/ 2)  
            iTmp = trackLength(halfTrack)  
        Case 5  
            halfTrack = halfTrack + 1  
            iTmp = trackLength(halfTrack)  
    End Select  
    min = Hex$(CInt(Mid$(iTmp, 1, 2)))
```

```

sec = Hex$(CInt(Mid$(iTmp, 4, 2)))
milli = Hex$(CInt(Mid$(iTmp, 7, 2)))
varTmp = varTmp & min & sec & milli

```

Next

```
varTmp = varTmp & Hex(iNumberOfTracks)
```

In this regard, it should be noted that the particular combination of audio CD attributes, and the manner in which they are combined, is not critical provided that it provides a reasonable indication that the CD is the correct CD.

In any event, once the user presses the "Verify CD" button, a web browser (which is invisible to the user) passes the unique identifier to a verification script on the Internet. This can be implemented, for example, as follows:

```

URL = "http://www.cdchecker.com/cgi-bin/checker.cgi"
Flags = 0
TargetFrame = ""
PostData = "CDUID=" & iUniqueIdentifier & ""
PostData = StrConv(PostData, vbFromUnicode)
Headers = "Content-Type: application/x-www-form-urlencoded" & _
vbCrLf

WebBrowser1.Navigate URL, Flags, TargetFrame, PostData, Headers

```

If the unique identifier that is sent from the user's computer matches the identifier of the audio CD that is qualified for the download, then the script will instruct the ASA program to begin downloading the bonus track(s) to the user's computer.

If the user places an incorrect audio CD into the CD-ROM drive, then the unique identifier will not match the identifier in the verification script, which will cause the application to prompt the user with an error message.

Appendix I

Dim fplaying As Boolean 'true if CD is currently playing

```

Dim fCDLoaded As Boolean 'true if CD is the player
Dim iNumberOfTracks As Integer 'number of tracks on audio CD
Dim tracklength() As String 'array containing length of each track
Dim iUniqueIdentifier As String 'unique CD identifier
Dim warningflag As String 'warning flag
Dim track As Integer 'current track
Dim min As String 'minute on track
Dim milli As String 'millisecond on track
Dim msghelp As Integer 'msgbox flag for CD-ROM cache errors
Dim cmd As String 'string to hold mci command strings
'Send a MCI command string
'If fShowError is true, display a message box on error
Private Function SendMCIStr(cmd As String, fShowError As Boolean) As Boolean
Static rc As Long
Static errStr As String * 200
rc = mciSendString(cmd, 0, 0, hWnd)
If (fShowError And rc <> 0) Then
mciGetErrorString re, errStr, Len(errStr)
MsgBox "Error: Close this application and re-insert the Human Clay" & Chr(13) & "CD into
CD-ROM drive. Disable any auto-loading applications" & Chr(13) & "such as CD players
and then restart this program.", vbCritical
End If
SendMCIStr = (rc = 0)
End Function
Private Sub creednet_Click()
WebBrowser1.Navigate "http://www.creednet.com", , "_BLANK"

```

End Sub

Private Sub Form_Load()

If (App.PrevInstance = True) Then

End

End If

‘Initialize variables

Timer1.Enabled = False

fCDLoaded = False

sitebtn.Enabled = False

msgHelp = “0”

If (SendMCIStrng(“open cdaudio alias cd wait shareable”, True) = False) Then

End

End If

SendMCIStrng “set cd time format tmsf wait”, True

Timer1.Enabled = True

End Sub

Private Sub Form_Unload(Cancel As Integer)

SendMCIStrng “close all”, False

End Sub

Private Sub help_Click()

WebBrowser1.Navigate “http://www.cdchecker.com/help.html”, , “_BLANK”

End Sub

Private Sub liqAud_Click()


```
WebBrowser1.Navigate "http://www.liquidaudio.com", , "_BLANK"
```

```
End Sub
```

```
'Go to Site
```

```
Private Sub sitebtn_Click()
```

```
    Dim URL As String
```

```
    Dim Flags As Long
```

```
    Dim TargetFrame As String
```

```
    Dim postData() As Byte
```

```
    Dim Headers As String
```

```
    Dim varTmp As String
```

```
    Dim q As Integer
```

```
    Dim iTmp As Variant
```

```
    msgHelp = msgHelp + 1
```

```
    varTmp = ""
```

```
    For q = 1 To 5
```

```
        Select Case q
```

```
            Case 1
```

```
                mciSendString "status cd length wait", s, Len(s), 0
```

```
                iTmp = s
```

```
            Case 2
```

```
                iTmp = trackLength(1)
```

```
            Case 3
```

```
                iTmp = trackLength(iNumberOfTracks)
```

```
            Case 4
```

```
                halfTrack = CInt(iNumberOfTracks/ 2)
```

```
                iTmp = trackLength(halfTrack)
```

Case 5

halfTrack = halfTrack + 1

iTmp = trackLength(halfTrack)

End Select

min = Hex\$(CInt(Mid\$(iTmp, 1, 2)))

sec = Hex\$(CInt(Mid\$(iTmp, 4, 2)))

milli = Hex\$(CInt(Mid\$(iTmp, 7, 2)))

varTmp = varTmp & min & sec & milli

Next

varTmp = varTmp & Hex(iNumberOfTracks)

iUniqueIdentifier = vartmp

URL "http://www.cdchecker.com/cgi-bin/checker.cgi"

Flags = 0

TargetFrame=""

PostData = "CDUID=" & iUniqueIdentifier & ""

'VB creates a Unicode string by default so, we need to

'convert it back to Single byte character set.

PostData = StrConv(PostData, vbFromUnicode)

Headers = "Content-Type: application/x-www-form-urlencoded" & _

vbCrLf

WebBrowser1.Navigate URL, Flags, TargetFrame, PostData, Headers

End Sub

'Eject the CD

Private Sub eject_Click()

SendMCIStr "set cd door open", True

Update

End Sub

'Update the display and state variables

Private Sub Update()

Static s As String * 30

'Check if CD-ROM drive has cache error

If msgHelp > 2 Then

MsgBox "Please verify that Creed's Human Clay is in your CD-ROM drive" &
Chr(13) _

& "and that any other CD-ROM/DVD-ROM drives are empty. If Human" &
Chr(13) _

& "Clay is in your CD-ROM drive and your are still receiving the" & Chr(13)
_

& "'Error: Invalid CD'message, try refreshing your CD-ROM drive." &
Chr(13)

& "" & Chr(13) _

& "To refresh the drive, remove the CD from your CD-ROM drive and" &
Chr(13) _

& "close any open programs (including this one). Then, double click" &
Chr(13) -

& "the 'My Computer' icon on your Windows desktop. Select 'Refresh'" &
Chr(13) _

& "from the'View'dropdown menu in the toolbar. Reinsert the Human" &
Chr(13) _

& "Clay CD into your CD-ROM drive and restart this program.",
vbExclamation

End

End If

mciSendString "status cd media present", s, Len(s), 0

If (CBool(s)) Then

 'Enable all the controls, get CD information

 If (fCDLoaded = False) Then

 mciSendString "status cd number of tracks wait", s, Len(s), 0

 iNumberOfTracks = CInt(Mid\$(s, 1, 2))

 eject.Enabled = True

 'If CD only has 1 track, then it's probably a data CD

 If (iNumberOfTracks = 1) Then

 timeWindow.Text = "Please insert audio CD"

 Exit Sub

 End If

 mciSendString "status cd length wait", s, Len(s), 0

 ReDim trackLength(1 To iNumberOfTracks)

 Dim i As Integer

 For i = 1 To iNumberOfTracks

 cmd = "status cd length track " & i

 mciSendString cmd, s, Len(s), 0

 trackLength(i) = s

 Next

 fCDLoaded = True

 sitebtn.Enabled = True

 End If

 'Update the track time display

 If WebBrowser1.LocationURL = "http://www.cdchecker.com/invalid.html"

Then

 warningFlag = "Error: Invalid CD"

```
        Else
            warningFlag = ""
        End If

        If warningFlag = "" Then
            timeWindow.Text = "Make sure you are connected to the Internet and then
press the Verify CD button"
        Else
            timeWindow.Text = warningFlag
        End If
    Else
        eject.Enabled = False
        timeWindow.Text = "Insert CD"
        'Disable all the controls, clear the display
        If (fCDLoaded True) Then
            fCDLoaded = False
            fPlaying = False
            sitebtn.Enabled = False
            WebBrowser1.Navigate "http://www.cdchecker.com/help.html"
            warningFlag = ""
            msgHelp = "0"
        End If
    End If
End Sub

Private Sub Timer1_Timer()
    Update
End Sub
```

It is important to note that, while the present invention has been (and will continue to be) described in the context of a fully functional computer system, those skilled in the art can appreciate that the present invention is capable of being distributed as a program product in a variety of forms and that the present invention applies equally regardless of the particular type of signal-bearing media utilized to actually carry out the distribution. Examples of signal-bearing media include: recordable-type media, such as floppy discs, hard-disk drives, audio CDs and CD ROMs, and transmission-type media, such as digital and analog communication links.

While the above stated examples are given in terms of CDs, the present invention is equally applicable to other forms of prerecorded media. For instance, instead of a CD, the prerecorded media could be a prerecorded cassette tape, a prerecorded VHS tape, a prerecorded DVD, or any other conventional or newly developed prerecorded media. Desirably the prerecorded media is in a digital format.

In some embodiments of the present invention, the prerecorded media has one or more tracks that contains information concerning the number and/or length of the other tracks. For instance, in the Red Book audio format employed on many CDs the first track includes precise information concerning the number and length on the other tracks on the CD. In some embodiments of the present invention, this track is used to obtain the information used to create a key. In some other embodiments of the present information, the length of each track is accurately determined as well as the number of tracks and this determined information is used to create a key.

The Red Book or system description CD-Digital Audio (CD-DA) specifies the CD Digital Audio disc format including CD Graphics, CD (Extended) Graphics, CD TEXT, CD-MIDI, CD Single (8cm), CD Audio Maxi-single (12cm) and CDV Single (12cm).

The description includes Main parameters, Audio specification, Disc specification, Optical stylus, Modulation system, Error correction system and the Control & Display system.

Once the key corresponding to the prerecorded media that entitles the person having that media to gain access, the person having this media and access data that can include multimedia data such as photographic images, audio data (*e.g.*, music), graphical data, and/or textual data. For example, such data may included additional music which complements the music already contained on the physical audio CD itself in the form of recorded data. Such

corresponding data may also include additional artwork or lyrics that was not presented in the original CD package, but which further complements the CD.

Those skilled in the art will appreciate that although these are examples of multimedia data, other types of corresponding data other than multimedia (*e.g.*, program codes, encrypted data, etc.) may also be utilized in accordance with a preferred embodiment of the present invention. The unique identifying indicia is a unique identifier derived from information stored on the physical removable media itself. In a preferred embodiment, the unique identifier is based on the "Red Book" audio standard, well-known in the electronic recording arts. Additional data for which access is granted to the user possessing the required prerecorded media is typically retrieved from one or more "web sites" However, in an alternative embodiment, the additional data can be retrieved from another memory sources (*e.g.*, other computers, disk drives, a memory unit within the audio/video system itself, and so forth) for storing data.

While the invention has been explicitly described in the context of a network of computers, those skilled in the art will recognize that the present invention could exist as a network of electronic devices that accept any of the aforementioned plurality of removable prerecorded media.

While the illustrated embodiment of the invention is implemented in the Visual Basic programming language utilizing the `mcisendstring` API, those skilled in the art will understand that the claims of the present invention apply to a variety of programming languages and is not limited to any particular API or to any particular operating system or platform.

While the invention has been particularly shown as described with reference to a preferred embodiment, it will be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope of the invention.

Utilization of the Internet in association with the method and system described herein is not a necessary feature of the present invention. For example, the present invention is applicable to other communication networks besides the Internet, including so-called "intranets" (*i.e.*, networks that are internal to particular organizations). The Internet, as described herein, is merely one example of a remote network that can be utilized in accordance with a preferred embodiment of the present invention. It is therefore contemplated that such modifications

can be made without departing from the spirit or scope of the present invention as defined in the appended claims.

What is claimed is:

1. A method for authenticating a CD ROM and downloading audio or video information to a user over a network of interconnected electronic devices, comprising the steps of:

prompting a user to place a selected CD into a drive of an electronic device, the drive being selected from the group consisting of a DVD ROM drive and CD ROM drive;

accessing information in a CD ROM in the drive;

determining whether the CD ROM in the drive is the selected CD ROM based upon the information;

if the CD ROM is the selected CD ROM, downloading data to the electronic device via the network.

2. The method of claim 1, wherein the data is selected from the group consisting of audio data, video data, and a combination thereof.

3. The method of claim 2, wherein the step of accessing information further comprises the step of scanning the CD ROM in the drive, and generating a unique identifier for the CD ROM, the unique identifier being a function of a structural arrangement of data on the CD ROM.

4. The method of claim 3, wherein the CD ROM is a music CD, and wherein the step of accessing information further comprises the step of:

scanning the CD ROM in the drive, and

generating a unique identifier for the CD ROM, the unique identifier being a function of two or more of a number of tracks on the CD, a length of each track, an order of each track, and a total track length of the CD.

5. The method of claim 3, wherein the CD ROM is a DVD.

6. A method for assembling a key for gaining access to a restricted file on a network of interconnected electronic devices comprising:

A. inserting a prerecorded media, said prerecorded media containing a plurality of files, into a drive associated with a terminal on said network, said drive being capable of reading said media;

B. directing said terminal to read said prerecorded media to retrieve information concerning each file in said plurality of files;

C. directing said terminal to read said prerecorded media to retrieve information concerning the aggregate of all files in said plurality of files;

D. converting said information concerning each file in said plurality of files and said information concerning the aggregate of all files in said plurality of files into a corresponding plurality of hexadecimal numbers; and

E. assembling said hexadecimal numbers into a key in a specified order.

7. The method of claim 6 further comprising selecting a pre-specified number of said hexadecimal numbers to assemble into said key.

8. The method of claim 6 further comprising retrieving information concerning the length corresponding to the aggregate of all files in said plurality of files for assembling into said key.

9. The method of claim 8 further comprising retrieving information concerning the length corresponding to the first file for assembling into said key.

10. The method of claim 9 further comprising retrieving information concerning the length corresponding to the last file for assembling into said key.

11. The method of claim 10 further comprising retrieving information concerning the length corresponding to a first intermediate file for assembling into said key.

12. The method of claim 11 further comprising retrieving information concerning the length corresponding to a second intermediate file for assembling into said key.

13. The method of claim 12 further comprising determining the number of files on said prerecorded media for assembling into said key.

14. The method of claim 13 further comprising assembling said key by taking the length information corresponding to said aggregate of files, taking the length information corresponding to said first file, taking said length information corresponding to said last file, taking length information corresponding to said first intermediate file, taking said length information corresponding to said second intermediate file, taking information corresponding to the number of files on said prerecorded media and converting said plurality of information into hexadecimal values.

15. The method of claim 14 further comprising assembling said key by taking the said hexadecimal value corresponding to said aggregate of files, appending thereto the said hexadecimal value corresponding to said first file, appending thereto the said hexadecimal value corresponding to said last file, appending thereto the said hexadecimal value corresponding to said first intermediate file, appending thereto the said hexadecimal value corresponding to said second intermediate file, appending thereto the said hexadecimal value corresponding to said number of files on said prerecorded media.

16. A method for assembling a key for gaining access to a restricted file on a network of interconnected electronic devices related to a specified prerecorded media containing a plurality of files, said method comprising:

A. inserting said specified prerecorded media into a drive associated with a terminal on said network, said drive being capable of reading said media;

B. directing said terminal to read said prerecorded media and with the information gleaned from reading said media, calculate information concerning the length of a plurality of said files and the number of files in said plurality of files;

C. converting said calculated information concerning plurality of said files into a plurality of hexadecimal values; and

D. assembling said hexadecimal values into a key in a specified order.

17. The method of claim 16 further comprising selecting a pre-specified number of said hexadecimal values to assemble into said key.

18. The method of claim 17 further comprising retrieving information concerning the length corresponding to the aggregate of all files in said plurality of files for assembling into said key.

19. The method of claim 18 further comprising retrieving information concerning the length corresponding to the first file for assembling into said key.

20. The method of claim 19 further comprising retrieving information concerning the length corresponding to the last file for assembling into said key.

21. The method of claim 20 further comprising retrieving information concerning the length corresponding to a first intermediate file for assembling into said key.

22. The method of claim 21 further comprising retrieving information concerning the length corresponding to a second intermediate file for assembling into said key.

23. The method of claim 22 further comprising determining the number of files on said prerecorded media for assembling into said key.

24. The method of claim 23 further comprising assembling said key by taking the length information corresponding to said aggregate of files, taking the length information corresponding to said first file, taking said length information corresponding to said last file, taking length information corresponding to said first intermediate file, taking said length information corresponding to said second intermediate file, taking information corresponding to the number of files on said prerecorded media and converting said plurality of information into hexadecimal values.

25. The method of claim 24 further comprising assembling said key by taking the said hexadecimal value corresponding to said aggregate of files, appending thereto the said hexadecimal value corresponding to said first file, appending thereto the said hexadecimal value corresponding to said last file, appending thereto the said hexadecimal value corresponding to said first intermediate file, appending thereto the said hexadecimal value corresponding to said second intermediate file, appending thereto the said hexadecimal value corresponding to said number of files on said prerecorded media.

26. A method of determining whether to grant access to a restricted file to a remote terminal on a network of interconnected electronic devices comprising:

A. submitting the master key for a specific prerecorded media into the host system;

B. receiving a query from a remote terminal for access to a restricted file corresponding to said specific prerecorded media;

C. denying access to said remote terminal if said remote terminal does not have said specific prerecorded media; and

D. granting access to said remote terminal if said remote terminal has said specific prerecorded media.

27. The method of claim 26 in which said submitting of the master key comprises:

A. collecting the number files on said media in a specific drive on said remote terminal as well as the length of each file in sequence order;

B. converting a plurality of said information into a plurality of hexadecimal values;

C. assembling said plurality of hexadecimal values in a specified order into a key;

D. verifying the submitter as an authorized administrator of the host system; and

E. storing inputted master key with corresponding information for said restricted file related to said specific prerecorded media.

28. The method of claim 27 further comprising selecting a pre-specified number of said hexadecimal numbers to assemble.

29. The method of claim 28 further comprising retrieving information concerning the length corresponding to the aggregate of all files in said plurality of files for assembling into said key.

30. The method of claim 29 further comprising retrieving information concerning the length corresponding to the first file for assembling into said key.

31. The method of claim 30 further comprising retrieving information concerning the length corresponding to the last file for assembling into said key.

32. The method of claim 31 further comprising retrieving information concerning the length corresponding to a first intermediate file for assembling into said key.

33. The method of claim 32 further comprising retrieving information concerning the length corresponding to a second intermediate file for assembling into said key.

34. The method of claim 33 further comprising determining the number of files on said prerecorded media for assembling into said key.

35. The method of claim 34 further comprising assembling said key by taking the length information corresponding to said aggregate of files, taking the length information corresponding to said first file, taking said length information corresponding to said last file, taking length information corresponding to said first intermediate file, taking said length information corresponding to said second intermediate file, taking information corresponding to the number of files on said prerecorded media and converting said plurality of information into hexadecimal values.

36. The method of claim 35 further comprising assembling said key by taking the said hexadecimal value corresponding to said aggregate of files, appending thereto the said hexadecimal value corresponding to said first file, appending thereto the said hexadecimal value corresponding to said last file, appending thereto the said hexadecimal value corresponding to said first intermediate file, appending thereto the said hexadecimal value corresponding to said second intermediate file, appending thereto the said hexadecimal value corresponding to said number of files on said prerecorded media.

37. The method of claim 26 in which said querying step comprises:

- A. receiving a key from a remote terminal
- B. comparing said received key with a pre-specified master key; and
- C. if said received key and said pre-specified master key match, granting access and denying access if said received key and said pre-specified master key do not match.

38. The method of claim 37 in which granting access to a restricted file related to a specific prerecorded media comprises executing a set of instructions using the information stored with the corresponding master key on the host system to direct said remote terminal to said restricted file with the proper credentials to access said restricted file.

39. A remote terminal system for assembling a key for gaining access to a restricted file on a network of interconnected electronic devices comprising:

- A. said terminal having at least one drive capable of reading a prerecorded media;
- B. a prerecorded media in said drive, said prerecorded media containing a plurality of files;
- C. a connection to said network;
- D. a set of instructions for said terminal directing said terminal to use said drive to glean information concerning the said plurality of files;
- E. a second set of instructions for said terminal directing said terminal to convert said plurality of information into a corresponding plurality of hexadecimal values;

F. a third set of instructions for said terminal directing said terminal to assemble said hexadecimal values in a specified order into a key; and

G. a fourth set of instructions for said terminal directing said terminal to send said assembled key to said network via said connection.

40. A host system determining whether to grant access to a restricted file to a remote terminal on a network of interconnected electronic devices comprising:

A. an instruction processing unit;

B. a connection to said network

C. a first set of instructions directing said host system to store a master key and information regarding access to said restricted file as submitted by an administrator of the host system wherein said master key and said restricted file correspond to a specific prerecorded media;

C. a second set of instructions directing said host system to receive a query from said remote terminal for said specific prerecorded media;

D. a third set of instructions directing said host system to deny access to said remote terminal if said key from said remote terminal does not correspond to said master key for said restricted file; and

E. a third set of instructions directing said host system to grant access to said remote terminal if said key from said remote terminal corresponds to said master key for said restricted file.

41. A computer program for assembling a key to gain access to a restricted file on a network of interconnected electronic devices comprising:

- A. a first set of instructions that direct a terminal executing said first set of instructions to read a prerecorded media inserted in a drive of said terminal to ascertain whether said prerecorded media has a plurality of files;
- B. a second set of instructions that direct a terminal executing said second set of instructions to glean information concerning the number of and the length of said plurality of files;
- C. a third set of instructions that direct a terminal executing said third set of instructions to convert said plurality of information into a corresponding plurality of hexadecimal values; and
- D. a fourth set of instructions that direct a terminal executing said fourth set of instructions to assemble said hexadecimal values in a specified order into a key; and
- E. a fifth set of instructions that direct a terminal executing said fifth set of instructions to transmit said key to a host on said network having said restricted file.

42. A computer program for assembling a key to gain access to a restricted file on a network of interconnected electronic devices comprising:

- A. a first set of instructions that direct a terminal executing said first set of instructions to read a prerecorded media inserted in a drive of said terminal to calculate information concerning the number of and the length of a plurality of said files;
- B. a second set of instructions that direct a terminal executing said second set of instructions to convert said calculated information concerning the plurality of said files into a plurality of hexadecimal values;
- C. a third set of instructions that direct a terminal executing said third set of instructions to assemble said hexadecimal numbers in a specified order into a key; and

D. a fourth set of instructions that direct a terminal executing said fourth set of instructions to transmit said key to a host on said network having said restricted file.

43. A medium capable of directing a remote terminal to generate a key for accessing a restricted file on a network of interconnected electronic devices comprising:

i) said medium capable of being read by a drive connected to a processing unit having encoded thereon:

A. a first set of instructions that direct a terminal executing said first set of instructions to read a prerecorded media inserted in a drive of said terminal to ascertain whether said prerecorded media has a plurality of files;

B. a second set of instructions that direct a terminal executing said second set of instructions to glean information concerning the number of and the length of said plurality of files;

C. a third set of instructions that direct a terminal executing said third set of instructions to convert said plurality of information into a corresponding plurality of hexadecimal values; and

D. a fourth set of instructions that direct a terminal executing said fourth set of instructions to assemble said hexadecimal values in a specified order into a key; and

E. a fifth set of instructions that direct a terminal executing said fifth set of instructions to transmit said key to a host on said network having said restricted file.

44. A medium capable of directing a remote terminal to generate a key for accessing a restricted file on a network of interconnected electronic devices comprising:

i) said medium capable of being read by a drive connected to a processing unit having encoded thereon:

- A. a first set of instructions that direct a terminal executing said first set of instructions to read a prerecorded media inserted in a drive of said terminal to calculate information concerning the number of and the length of a plurality of said files;
- B. a second set of instructions that direct a terminal executing said second set of instructions to convert said calculated information concerning the plurality of said files into a plurality of hexadecimal numbers;
- C. a third set of instructions that direct a terminal executing said third set of instructions to assemble said hexadecimal numbers in a specified order into a key; and
- D. a fourth set of instructions that direct a terminal executing said fourth set of instructions to transmit said key to a host on said network having said restricted file.